



WATER FORWARD

INTEGRATED WATER RESOURCE PLAN

Austin Integrated Water Resource Planning Community Task Force

Packet Index

September 3, 2019

<u>Item</u>	<u>Page</u>
Agenda	2
Minutes	5
Presentation	7



Austin Integrated Water Resource Planning Community Task Force
September 3, 2019 – 6:00 p.m.
Waller Creek Center, Room 104
625 East 10th Street
Austin, Texas 78701

For more information go to:
[Austin Integrated Water Resource Planning Community Task Force](#)

AGENDA

Voting Members:

Sharlene Leurig - Chair	Perry Lorenz	Sarah Richards
Jennifer Walker – Vice Chair	Robert Mace	Lauren Ross
Todd Bartee	Hani Michel	
Diane Kennedy	Bill Moriarty	

Ex Officio Non-Voting Members:

Austin Water: Greg Meszaros
Austin Energy: Kathleen Garrett
Austin Resource Recovery: Sam Angoori
Neighborhood Housing and Community Development: Rebecca Giello
Office of Innovation: Kerry O'Connor
Office of Sustainability: Lucia Athens
Parks and Recreation:
Watershed Protection: Mike Personett

1. CALL TO ORDER – September 3, 2019 6:00 p.m.

2. CITIZEN COMMUNICATION

The first 10 speakers signed up prior to the meeting being called to order will each be allowed a three-minute allotment to address their concerns regarding items not posted on the agenda.

3. APPROVAL OF MEETING MINUTES

- a. Approval of the meeting minutes from the July 9, 2019 Task Force meeting (5 minutes)

4. STAFF BRIEFINGS, PRESENTATIONS, AND OR REPORTS

- a. Aquifer Storage and Recovery Update – City Staff (45 minutes)
 - i. Task Force Questions and Discussion
- b. Ordinance Development Update – City Staff (60 minutes)
 - i. Task Force Questions and Discussion
- c. Lead Service Update (previously presented to Water and Wastewater Commission) – City Staff (20 minutes)
 - i. Task Force Questions and Discussion

5. FUTURE AGENDA ITEMS

6. ADJOURN

Note: Agenda item sequence and time durations noted above are subject to change.

The City of Austin is committed to compliance with the American with Disabilities Act. Reasonable modifications and equal access to communications will be provided upon request. Meeting locations are planned with wheelchair access. If requiring Sign Language Interpreters or alternative formats, please give notice at least 2 days (48 hours) before the meeting date. Please call Austin Integrated Water Resource Planning Community Task Force, at 512-972-0194, for additional information; TTY users route through Relay Texas at 711.

For more information on the Austin Integrated Water Resource Planning Community Task Force, please contact Marisa Flores Gonzalez at 512-972-0194.

MINUTES



The *Austin Integrated Water Resource Planning Community Task Force* convened in a Regular Meeting on July 9, 2019 at Waller Creek Center, Conference Rm 104, 625 E 10th Street, in Austin, Texas.

Members in Attendance:

Jennifer Walker – Vice Chair
Lauren Ross
Sarah Richards

Diane Kennedy
Bill Moriarty

Perry Lorenz
Robert Mace

Ex-Officio Members in Attendance:

Josh Rudow, Matt Hollon, Matt Russell

Staff in Attendance:

Kevin Critendon, Daryl Slusher, Chris Chen, Teresa Lutes, Marisa Flores Gonzalez, Ginny Guerrero, Helen Gerlach, Matt Cullen, Prachi Patel, Joe Smith, Bill Stauber, Dan Pedersen, Jason Inge, Mark Jordan, Katherine Jashinski, Robert Stefani, Ceara Currie

Additional Attendees:

Dan Warth, Adam Conner, Stephanie Moore, Julie Hastings

1. CALL TO ORDER

Vice Chair Walker called the meeting to order at 4:09 p.m.

2. CITIZEN COMMUNICATION: GENERAL

There were no speakers signed up for citizen communication.

3. APPROVAL OF MEETING MINUTES

The meeting minutes from the May 28, 2019 Austin Integrated Water Resource Planning Community Task Force regular meeting were approved as presented on Member Moriarty's motion and Member Lorenz's second with Member Richards abstaining for a final 6-0-0-1 vote.

4. STAFF BRIEFINGS, PRESENTATIONS, AND/OR REPORTS

- a. A staff presentation on a recap of recent activities was provided by Ginny Guerrero, Austin Water. This was followed by Task Force discussion and input.
- b. A staff presentation on preliminary ordinance development updates was provided by Katherine Jashinski and Robert Stefani, Austin Water. This was followed by Task Force discussion and input. It was discussed that a meeting will be scheduled for the Ordinance Subcommittee of the Water Forward Task Force.

5. FUTURE AGENDA ITEMS

None

6. ADJOURN

Vice Chair Walker adjourned the meeting at approximately 6:05 pm.

PRESENTATION



Agenda

1. Aquifer Storage and Recovery Update
2. Ordinance Development Update
3. Lead Service Update

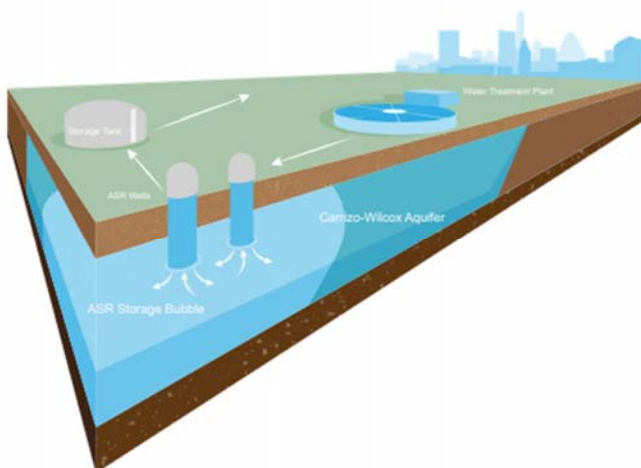
Agenda

1. **Aquifer Storage and Recovery Update**
2. Ordinance Development Update
3. Lead Service Update

3

Background

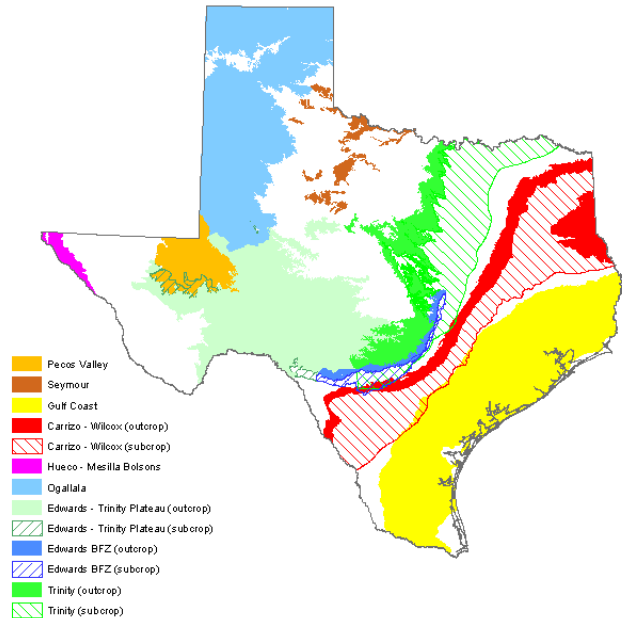
Aquifer Storage and Recovery (ASR)



- Major tasks will include
 - Research and pilot site selection, design, construction, and testing of pilot ASR
 - Full scale facility design, construction, and testing
- Included in Water Forward plan as a Carrizo-Wilcox ASR but plan to study additional potential locations
- Target is to have 60,000 acre-feet per year of supply available by 2040

Previously Completed ASR Studies

- 1996 ASR Feasibility report
- 2018 ASR Feasibility and Engineering Analysis for the Edwards and Trinity aquifers in the Austin area
 - Storage of public drinking water into or through the Edwards Aquifer in Travis County requires modification of certain regulations



Preliminary Timeline

- FY 2020-2023 Identify where to pilot
- FY 2024-2027 Design, construct, test ASR pilot, and develop recommendations for full-scale ASR
- FY 2028-2029 Preliminary engineering for full-scale ASR
- FY 2029-2030 Design for full-scale ASR
- FY 2031-2035 Construction of full-scale ASR

ASR Technical Advisory Group Workshop

- AW hosted ASR TAG workshop on September 26th – 27th
- Attendees included:
 - Jeff Johnson, Senior Hydrologist, Southern Nevada Water Authority
 - Kevin Kluge, Director, Innovative Water Technologies, TWDB
 - Dr. Gretchen Miller, Dept. of Civil and Environmental Engineering, Texas A&M
 - Grant Terry, Superintendent of Water Production Division, City of Kerrville
 - Darren Thompson, Director of Water Resources, San Antonio Water System
 - Robert Verrastro, Lead Hydrologist, Water Supply Bureau, South Florida Water Management District
 - Bill Moriarty, Water Forward Task Force Member
 - Austin Water and City Staff
 - Planning, Facilities Engineering, Environmental and Regulatory Services, Public Information, Legal

7

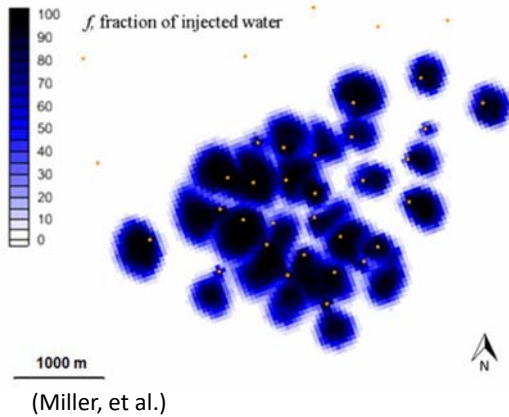
ASR Technical Advisory Group Kickoff Goals

- Gather lessons learned about ASR projects and research to inform stakeholder engagement, locating potential pilot project sites, and piloting
- To begin building a network of experts to share information related to AW's work on ASR site selection, piloting, and full-scale ASR design and construction



8

Stakeholder Engagement



- Have up front sharing of science and technical information
- Incorporate ASR into other outreach on water supply to the general public
- Build our outreach tools
 - Concepts: get past the “bubble” concept – use terms like “storage zone”
 - Visualizations: have graphic designers work closely with geologists

9

Stakeholder Engagement

- Audiences should include Austinites and those near potential pilot projects and full-scale facilities
 - Elected officials, county judges, GCDs, utility customers, residents, advocates, and landowners
- Important to design a mitigation program for potentially impacted private wells
- Demonstrate you have a stake in the local community and be available



(SAWS, 2019)

10

Site Selection

- Aquifer characteristics will impact site suitability for ASR, including,
 - Water quality
 - Hydraulic properties
 - Water levels and discharge
- Considerations include ability to maintain control of stored water and integration with distribution system
- Desktop modeling can be used to identify potential locations for exploratory wells

Karst example



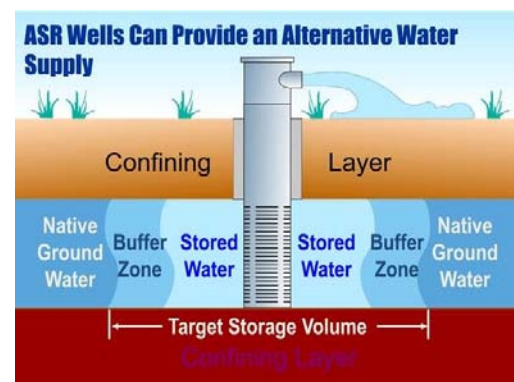
Sandstone example



11

Pilot Testing

- Need to clearly articulate long-term objectives and develop testing program to get us there
 - Aquifer characteristics and operational considerations will inform design of pilot and full-scale facility
- Recommended to commit to several successively larger cycles of testing (1-2 years) and then build the system out to meet ultimate objectives
- An investment of time and water is needed to condition aquifer and build storage
- Monitor water quality changes to inform treatment needs
- Perform pipe testing
 - SAWS took pipes from older SA neighborhoods and tested water quality interactions with ASR water



12

AW Next Steps

- Continue internal AW ASR working group activities
 - Work to develop a consultant scope of work to be released Fall 2019
 - SOW to include providing support for desktop modeling, potential site selection, and ASR piloting
 - Target is to have consultant on board by Summer 2020
 - Continued research and information gathering
- Identify next ASR TAG workshop date, potentially Spring 2020
- Continue external stakeholder engagement and education related to ASR

13

Questions and Discussion

14

Agenda

1. Aquifer Storage and Recovery Update
- 2. Ordinance Development Update**
3. Lead Service Update

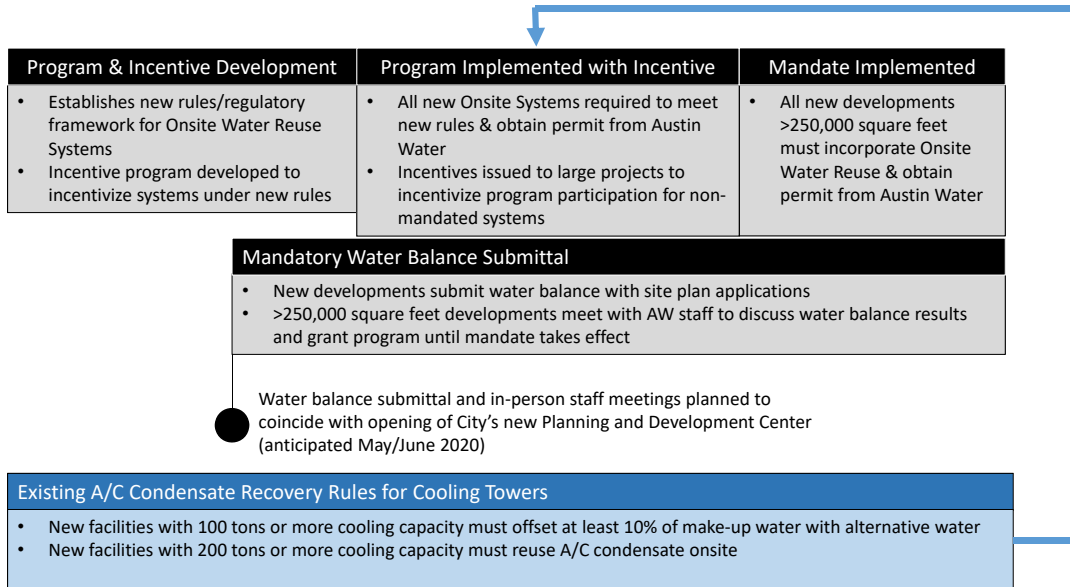
15

ALTERNATIVE WATER ORDINANCE DEVELOPMENT RECAP

Date	Event
5/2	Received Council direction to include Water Forward ordinances in LDC to the extent possible with emphasis on developments >250,000 SF
5/	Full Water Forward Task Force Meeting
6/25	Alternative Onsite Reuse Workshop #1: Code Concepts
7/9	Full Water Forward Task Force Meeting
7/16	Water Forward Task Force Ordinance Subcommittee Meeting
7/23	Alternative Onsite Reuse Workshop #2: Ordinance Approach
8/13	Water Forward Task Force Ordinance Subcommittee Meeting
8/30	Draft LDC language due for Oct 4 th release

16

WORKSHOP #2: ONSITE REUSE ORDINANCE APPROACH



WORKSHOP FORMAT: REVIEW THREE EXAMPLE PROJECTS



Mixed Use w/ Ground Floor Retail
<250,000 SF



Multi-family Suburban Complex
> 250,000 SF



Commercial Office High-rise
>250,000 SF

- 3 groups working through the projects together at one station
- 30 minutes for each project with a 15-minute break after projects 2 & 3
- Report out and discussion on the ordinance approach at the end of workshop

Stakeholder Workshop #2 Feedback

Major Theme	Specific Feedback
1. Cost of Onsite Reuse Systems	<ul style="list-style-type: none"> Is there/will there be a cost-benefit analysis for this mandate? Consider public perception, at some point we'll have to sell the mandate to the public. Show savings that offset permit costs.
2. Development Incentives to Incorporate Onsite Reuse	<ul style="list-style-type: none"> Would like as many cross-credits as possible with other City mandates. How do stormwater/water quality requirements interact with the future mandate? Can double-credit be given for water quality credits? Will there be incentives relating to capital recovery fee/impact fee to encourage adoption? Downtown density bonus is precedent-incentive-based menu of options.
3. Interdepartmental Coordination	<ul style="list-style-type: none"> An Onsite Reuse System review adds extra complexity that will be difficult to navigate if not properly supported by city staff and coordinated between depts. Dream would be to have 1 meeting upfront with all City departments that have sustainability goals in a single discussion and to get clear direction on building design requirements
4. Alternative Mandate Threshold	<ul style="list-style-type: none"> 250K SF seems arbitrary, mandate should be based on usage (1 million gallons/year). Certain building typologies are better suited to produce demand savings. Construction type or FAR could be triggers for single buildings (Type 1, stick frame) Look at differing geographic requirements (downtown vs. edge of service area)

Stakeholder Workshop #2 Feedback

Water Balance/Benchmarking Calculator

Make calculator downloadable in one click.

Provide a tool for the water balance rather than incurring more soft costs.

At the site plan stage, you know acres and who's using the building, but more specific information about the development is known by the time you reach the building permit stage so the calculations will likely need revision. Will this trigger re-reviews?

Provide a pre-site plan meeting process to discuss water balance results so that there's time to incorporate reuse.

Pilot Program Incentive

What is the funding source for this incentive?

Should provide an incentive and let developer decide what type of system to build.

Are projects <250,000 SF eligible?

Stakeholder Workshop #2 Feedback

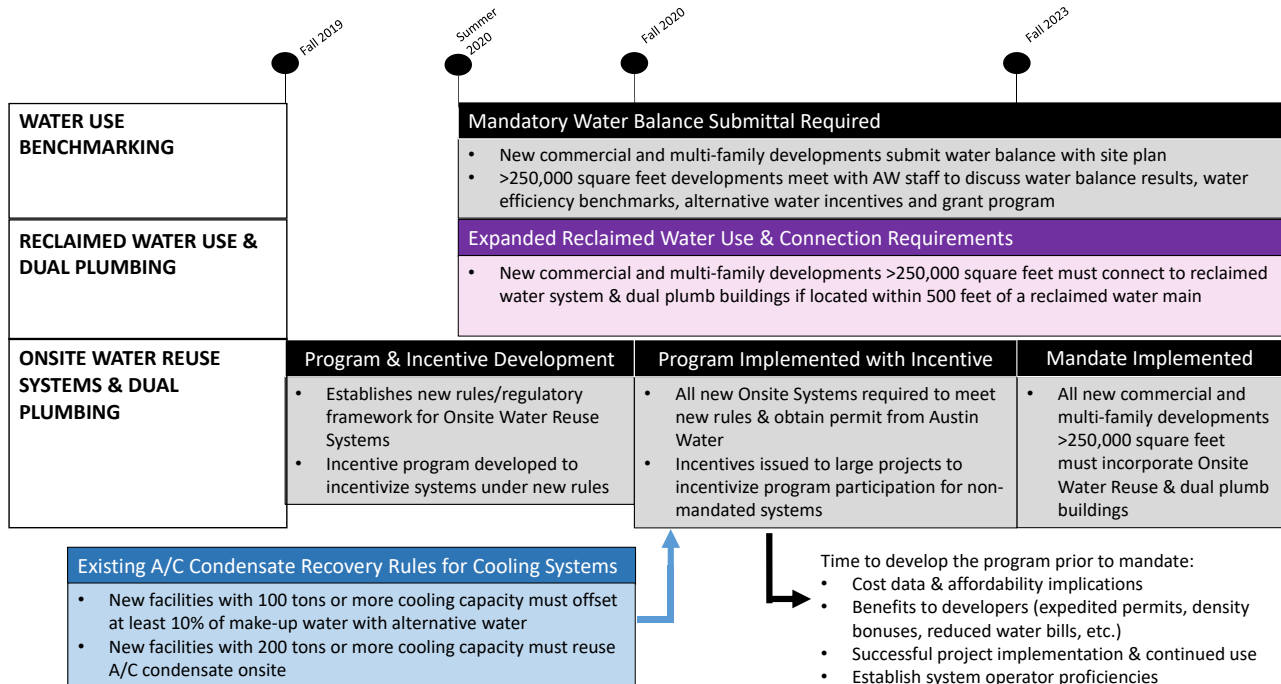
Clarification Needed

- What are the statistics regarding rates of previous (and future) development that would be affected by the proposed code language?
- Do we want to meet a building reuse target of 100% use? 90% use?
- Will requirements be to offset a certain amount of demand or a range of demands?
- We should have performance based metrics.
- How will compliance be ensured/how will AW make sure the systems are being used?
- Is the preliminary engineering report separate from the site plan submittal? Who approves it? Development Services needs to be involved in the sign-off.
- Will there be a maximum review time for these systems?
- Need to figure out the Certificate of Occupancy (CO) process because delays add significant cost to developer.
- Building won't get a final CO until getting onsite water system inspected, if no CO, cannot inhabit system, if system not inhabited won't be using onsite system.
- Need to develop regulations to allow crossing lot lines with private plumbing.
- How does an onsite reuse mandate affect the reclaimed mandate?

Affordability Considerations

- An Affordability Impact Statement is required for all new City ordinances
- Comparison to NHCD Affordable Housing Inventory reveals that 77 developments are >250,000 square feet and another 53 that are in the pipeline are potentially >250,000 square feet
- A small number of these contain 100% affordable units, but any code requirements that could impact development incentives to incorporate affordable units would also have an impact on overall housing affordability (i.e. cost of onsite reuse could outweigh developer density bonuses)

AUSTIN WATER ALTERNATIVE WATER ORDINANCES APPROACH



Draft LDC Language: Benchmarking

Development Project Requirements

- (A) Beginning June 1, 2020, a small development project applicant shall submit to the director a completed water benchmarking application and water balance calculator as a condition for site plan approval.
- (B) Beginning June 1, 2020, a large development project applicant, as a condition of site plan approval, shall:
 - (1) submit to the director a completed water benchmarking application and water balance calculator; and
 - (2) meet with the director to discuss water efficiency code requirements, water use benchmarking data, and incentives and rebates for alternative water use.

Draft LDC Language: Reclaimed and Dual Plumbing

Reclaimed Connection Requirements

- (A) A small development project located within 250 feet of a reclaimed water line shall connect to a reclaimed water line and use reclaimed water for irrigation, cooling, toilet flushing, and other significant non-potable water uses identified in the water balance calculator.
- (B) A large development project shall connect to a reclaimed water line and use reclaimed water for irrigation, cooling, toilet flushing and other significant non-potable water uses identified in the water balance calculator if the large development project is located within 500 feet of a reclaimed water line.

25

Draft LDC Language: Onsite Water Reuse Systems & Dual Plumbing

Onsite Water Reuse System Rules and Incentive Program

By December 1, 2020, the director shall:

- (1) adopt rules to implement, administer, and enforce this article, including rules to regulate the treatment, monitoring, and reporting requirements for onsite water reuse systems; and
- (2) develop an incentive program for onsite water reuse systems.

Beginning December 1, 2023, onsite water reuse systems are required for large development projects.

26

RECLAIMED AND ONSITE REUSE ORDINANCE OVERLAP

Commercial & multi-family developments >250,000 square feet within 500 feet of a reclaimed water line

Scenario A: developer doesn't want onsite reuse system (e.g. trying to maximize occupancy space in building)

- Meets exception to mandatory onsite reuse system requirement
- Dual plumbs building and connects all non-potable fixtures to reclaimed distribution piping
- Extends the reclaimed piping network to the property

Scenario B: developer wants onsite reuse system (e.g. already required to collect stormwater for WPD ordinance)

- Can install onsite reuse system, but isn't required to
- Dual plumbs building and connects all non-potable fixtures to the onsite reuse system that also has a reclaimed water connection to supplement the system
- Extends the reclaimed piping network to the property

Austin Water staff recommendation

Developments will **not be required** to both install an onsite reuse system and connect to the reclaimed system because:

- the redundant systems can be cost prohibitive;
- having this redundancy doesn't achieve a greater potable water offset; and
- having this redundancy doesn't change the overall water supply to/from the Highland Lakes



Next Steps

Date	Event
9/3	Full Water Forward Task Force Meeting
10/04	Public release of draft LDC
10/7 – 10/11	Potential Water Forward Task Force Ordinance Subcommittee Meeting
10/16	Two 2-hour workshops to present staff code recommendations
10/2019 -11/2019	Water Forward Task Force, W/WW Commission RCA
12/2019	Potentially seek Council action

Questions and Discussion

31

Agenda

1. Aquifer Storage and Recovery Update
2. Ordinance Development Update
- 3. Lead Service Update**

32



Lead Service Lines, AW Proactive Steps and Related Testing & Rule Compliance



Austin Integrated Water Resource Planning Community Task Force

September 3, 2019
Matt Cullen & Charles Maddox, Austin Water



AW Lead Service Line Status and Practice

- Discussion topics
 - Lead in water and lead service line issues
 - Questions to be addressed
 - How many lead services are in AW's system?
 - What are AW's lead service line repair/replacement practices?
 - What testing has AW done in relation to lead?

General Lead Issues

- Lead in drinking water has come to national attention following the crisis in Flint, Michigan
- The water provided to AW's customers is not a threat
 - Lead and Copper rule testing since 1992
 - Our water is scale forming (ie, not corrosive)
 - Very few lead services in our system
 - Lead exposure for our customers is much more likely to come from other sources like paint
 - If customers are exposed to lead in their water, it is most likely from private plumbing

35

Number of Lead Services in AW's System

- How many lead services are in AW's system?
 - The quick answer is not many. The full answer is a bit more involved.
 - AW has been investigating this question since 2016.

36

Number of Lead Services in AW's System

ST 1, BLK 1, L 12

WATER SERVICE PERMIT

Received of **JOSEPH D. TRIKRYL** Austin, Texas

Address **4501 DEPEW AVE.**

Amount **TWO AND 50/100**

Plumber **2-27-16**

Date of Connection **2-27-16**

Size of Tap Made **3/4"**

Size Service Made **3/4"**

Size Main Tapped **2" 6" CI**

From Front Prop. Line to Curb Cock **9'**

From Street Prop. Line to Curb Cock **14'**

Location of Meter **IN SIDE CURB**

Type of Box **FRS**

Depth of Main in St. **24"**

Depth of Service Line **24"**

From Curb Cock to Tap on Main **24"**

Checked by **W. E. D.**

INDEXED

No. 277

Date 2-27-16

Size of Tap **3/4"**

No. Fittings	Size	Material	Notes
1	3/4"	CI	St. Elbow
1	3/4"	CI	Building
1	3/4"	CI	Reducer
1	3/4"	CI	Lead Comp.
1	3/4"	CI	Union
1	3/4"	CI	Tap
1	3/4"	CI	Box
1	3/4"	CI	Valve

CHARGED TO **6** MAIN AND SERVICE WITH **3/4"** CONNECTION **201-448**

ST. 1

EAST 45TH

DEPEW AVE.

12.5'

14'

20'

120'

22'

40'

1

2-4

5'

6

7

8

37

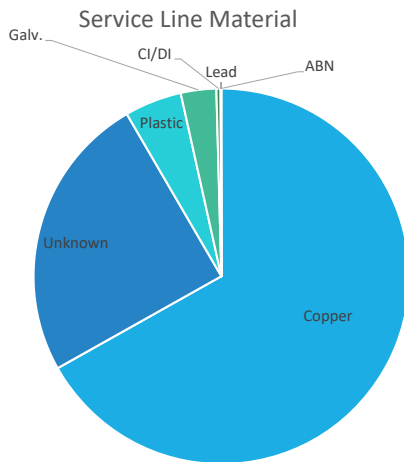
Number of Lead Services in AW's System

Service line material inside meterboxes



38

Number of Lead Services in AW's System



Material	Number Of Services		
	Tap Card Review	Record Review	Field Investigation
Copper	27,479	27,661	27,693
Unknown	10,373	10,249	10,249
Plastic	1,996	2,012	2,038
Galvanized	1,264	1,264	1,264
Cast Iron/ Ductile Iron	156	157	157
Lead	153	58	0
Abandoned	0	20	20
Total	41,421	41,421	41,421

39

Number of Lead Services in AW's System

- Longtime AW maintenance employees (30+ years with AW) indicate they have only encountered a handful of lead services in their entire careers
- To summarize, there may be a few lead services in AW's system, but the number is very small. By contrast, Chicago has an estimated 360,000 lead services still in service.

40

Lead Service Line Repair and Replacement Practices

- Repair and replacement practices
 - If AW maintenance crews encounter a lead service line they contact the Lead Service Working Group to initiate customer contact/communication
 - LSWG provides customer with flushing information, a free filter pitcher, and coordinates water testing
- CIP/contractor practices
 - Recent main replacement projects have not encountered lead services
 - AW is working on a specification for future contracts to address handling lead services encountered during construction

41

Lead Regulations and Testing

- Lead/Copper Testing
 - Rule compliance testing
 - Action levels – 0.015 mg/L for Pb, 1.3 mg/l for Cu; 90th percentile
 - AW has met Action Levels since sampling started in 1992
 - Sampling – based on population size, systems >100,000 collect 100 in initial round, 50 in reduced
 - AW in reduced monitoring since 1997, 50 samples every 3 years
 - Last sampling round 2018
 - Water Quality Parameters (WQP's) – triennially also
 - Corrosion control indicators – ie pH, alk, Ca, orthophosphate
 - Non-compliance testing
 - Lead sampling done at customer request
 - Proactive customer solicitation in selected areas

42

Lead Regulations and Testing

- Four expected changes by EPA to current rules
 - Proactively locate and replace all lead service lines, sharing responsibility for that replacement with customers, set replacement goals
 - Conduct additional monitoring and analysis of water quality parameters in order to better manage corrosion control,
 - Expand on current educational outreach to alert customers, particularly with lead service lines, to the risks posed by lead and steps they can take to reduce those risks,
 - Analyze customer-samples for lead upon request.
 - Lead service line replacement – expect there to be no partial replacement
 - This means customer owned service line replaced also if it is lead.
- Proposed rules expected Summer – Fall of 2019

43

Questions and Discussion

44

